Paper No. 23

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

Ex parte FRANK PIETSCH and DETLEV NEUHAUS

Appeal No. 2002-1866
Application No. 09/346,814

HEARD: February 4, 2003

Before ABRAMS, FRANKFORT, and NASE, Administrative Patent Judges.

ABRAMS, Administrative Patent Judge.

DECISION ON APPEAL

This is a decision on appeal from the examiner's final rejection of claims 21, 23-36 and 38-63, which are all of the claims pending in this application.

We REVERSE.

BACKGROUND

The appellants' invention relates to a method and device for assisting a driver during reverse travel of a vehicle toward an obstacle. An understanding of the invention can be derived from a reading of exemplary claim 21, which appears in the appendix to the Brief.

The prior art references of record relied upon by the examiner in rejecting the appealed claims are:

Shisgal et al. (Shisgal)	5,574,426	Nov. 12, 1996
Wieder et al. (Wieder)	5,864,285	Jan. 26, 1999
Schulte	5,869,764	Feb. 9, 1999
Suzuki et al. (Suzuki)	6,072,391	Jun. 6, 2000 (filed Jun. 12, 1996)

The following rejections stand under 35 U.S.C. § 103(a):[1]

Claims 21, 23-36, 38, 39, 42-45, 49-57 and 60-63 on the basis of Wieder and Shisgal.

Claims 40, 41, 46, 58 and 59 on the basis of Wieder, Shisgal and Suzuki.

Claims 47 and 48 on the basis of Wieder, Shisgal, Suzuki and Schulte.

Rather than reiterate the conflicting viewpoints advanced by the examiner and the appellants regarding the above-noted rejections, we make reference to the Answer (Paper No. 18) for the examiner's complete reasoning in support of the rejections, and to the Brief (Paper No. 17) for the appellants' arguments thereagainst.

OPINION

[1]A rejection under 35 U.S.C. § 112, second paragraph, was withdrawn in the Answer.

In reaching our decision in this appeal, we have given careful consideration to the appellants' specification and claims, to the applied prior art references, and to the respective positions articulated by the appellants and the examiner. As a consequence of our review, we make the determinations which follow.

All of the rejections are under 35 U.S.C. § 103. The test for obviousness is what the combined teachings of the prior art would have suggested to one of ordinary skill in the art. See, for example, In re Keller, 642 F.2d 413, 425, 208 USPQ 871, 881 (CCPA 1981). In establishing a prima facie case of obviousness, it is incumbent upon the examiner to provide a reason why one of ordinary skill in the art would have been led to modify a prior art reference or to combine reference teachings to arrive at the claimed invention. See Ex parte Clapp, 227 USPQ 972, 973 (Bd. Pat. App. & Int. 1985). To this end, the requisite motivation must stem from some teaching, suggestion or inference in the prior art as a whole or from the knowledge generally available to one of ordinary skill in the art and not from the appellant's disclosure. See, for example, Uniroyal, Inc. v. Rudkin-Wiley Corp., 837 F.2d 1044, 1052, 5 USPQ2d 1434, 1439 (Fed. Cir.), cert. denied, 488 U.S. 825 (1988). Applying this guidance of our reviewing court to the case at hand leads us to conclude that none of the rejections should be sustained. Our reasoning follows.

The appellants' invention provides a method and device for assisting a driver of a vehicle during reverse travel, which evaluates the distance between the vehicle and an

obstacle during travel of the vehicle in reverse toward the obstacle, and automatically influences the speed of the vehicle as it moves toward the obstacle. As manifested in claim 21, the method comprises the steps of evaluating distance signals representative of the distance between a vehicle tail and the obstacle, automatically influencing the speed of the vehicle as a function of the distance signals, assigning velocity values to the distance signals so that the step of automatically influencing includes limiting the speed of the vehicle not to exceed the assigned velocity values, and wherein the distance signals are classified into a plurality of zones and each of the zones is matched to a different assigned velocity value with the zones comprising

> zone 1, wherein the distance signals are greater than 3m and the assigned velocity value for zone 1 is V1;
>
> zone 2, wherein the distance signals are between 1m and 3m and the assigned velocity value for zone 2 is V2;
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> zone 3, wherein the distance signals are less than 1m and the assigned velocity value for zone 3 is V3; and
>
> wherein V1 is greater than V2 which is greater than V3.

It is the examiner's view that Wieder discloses all of the subject matter recited in claim 21 except for the exact values assigned to distance signals within the disclosed zones (Answer, page 5). However, the examiner takes the position that it would have been obvious to "assign any value safe for obstacle approach to the distance signals . . . since it has been held that where the general conditions of a claim are disclosed in

the prior art, discovering the optimum value of a workable range involves only routine skill in the art" (Answer, page 6).

Wieder also is directed to a system for assisting the operator of a vehicle in approaching an obstacle while traveling in reverse. The operation of the Wieder system is explained in the paragraph beginning at line 53 of column 4. A basic difference between Wieder and the appellant's system as recited in claim 21 is that Wieder discloses only two zones, and assigns a velocity value to only the outer of the two zones, where "the velocity of the vehicle cannot exceed the limit value" even if the operator were to specify a higher speed (column 5, lines 3-5). Another difference resides in the manner in which the vehicle is controlled as it is brought toward the obstacle. In the Wieder system, once into the inner of the two zones, braking force is applied to stop the vehicle (column 5, lines 5-8). The driver then actuates an approach switch, and braking force and engine power are intermittently applied to cause the vehicle to move at a minimum speed toward the obstacle until a particular time has passed, at which time the driver deactivates the approach switch and the brakes are again applied to bring the vehicle to a stop (column 5, lines 12-17). The approach switch then is activated by the driver once more, and the vehicle is moved rearward by the same intermittent operation of brakes and power until it has reached the obstacle, at which time the switch is deactivated for the final time and the brakes applied (column 5, lines 18-22).

Shisgal discloses a system for warning the driver of a vehicle of the presence of obstacles behind the vehicle. Included in Shisgal is the teaching that power is supplied to the warning system when the vehicle is placed in a reverse gear (column 6, lines 1-5). However, it appears to us that such a teaching also is present in Wieder, wherein a sensor checks to determine that the vehicle is moving in reverse on the basis of the selected gear before it activates the warning system (column 3, lines 61-64). We therefore agree with the examiner that it would have been obvious to operate the system only when the vehicle is traveling in the reverse direction.[2]

With regard to claim 21, in the absence of evidence to the contrary, we are not persuaded by the examiner's statement on page 5 of the Answer (quoted above) that it would have been obvious to one of ordinary skill in the art to modify the Wieder system to meet the terms of claim 21, which would require (1) establishing three control zones, (2) specifying that the distances of the three control zones be those recited in the claim, (3) limiting the speed of the vehicle in each of the three control zones to velocity values assigned to each zone, and (4) relating the velocity values to one another in the manner specified in the claim. To do so would, in our view, necessitate a reconstruction of such magnitude as to essentially discard the Wieder system as disclosed in the patent.

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[2] Interestingly, review of the Shisgal patent brought to our attention the fact that Shisgal establishes three warning zones based upon the proximity of the vehicle to the obstruction (column 3, lines 17-22). However, Shisgal does not overcome the deficiencies in Wieder because it does not sense the speed of the vehicle and does not automatically control the vehicle, but merely indicates to the driver the zone through which the vehicle is backing by illuminating a light of a particular color, thus allowing the driver to control the vehicle manually as necessary.

From our perspective, the only suggestion to combine the references in the manner proposed by the examiner is found in the hindsight afforded one who first viewed the appellants' disclosure. It therefore is our conclusion that the combined teachings of Wieder and Shisgal fail to establish a prima facie case of obviousness with regard to the subject matter recited in claim 21, and we will not sustain the rejection of claim 21 or of claims 23-35, which depend therefrom.

Independent claim 36 is directed to a device for assisting the driver of a vehicle during reverse travel. It contains all of the limitations recited in claim 21, and also stands rejected as being unpatentable over Wieder and Shisgal. For the reasons set forth above in discussing the rejection of claim 21, we also will not sustain the rejection of independent claim 36 and dependent claims 38, 39, 42-45 and 49-54.

Independent apparatus claim 55 also stands rejected as being unpatentable over Wieder and Shisgal. Claim 55 recites a distance sensor, an evaluating device which emits signals based upon signals received from the distance sensor, and a mechanism for influencing the speed of the vehicle in response to the evaluation signals,

> wherein when the distance between the vehicle and the obstacle is great, the speed of the vehicle is determined from a signal produced by a rotational speed sensor which monitors the rotational speed of a wheel of the vehicle; and
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> wherein when the vehicle is in the immediate vicinity of the obstacle, the speed of the vehicle is determined from the rate of change of the distance signal with respect to time.

We have studied the passages in Wieder to which the examiner directed us as support for the conclusion that the speed control specified in claim 55 is taught by this reference, but we find ourselves in agreement with the appellants that such is not the case. While Wieder discloses utilizing the speed of the wheels to detect speed (column 2, lines 56-60), the reference does not specify when this technique is used, much less that it is used only when the vehicle is some distance from the obstacle. The examiner has not explained where the limitation in claim 55 regarding using the rate of change of the distance signal is found in the passage cited in column 5 of Wieder, and we have not located support for such a conclusion on our own.

This being the case, it is our opinion that Wieder and Shisgal fail to establish a prima facie case of obviousness with regard to claim 55, and we will not sustain the rejection. It follows that we also will not sustain the rejection of dependent claims 56, 57 and 60-63.

Claims 40, 41, 46, 58 and 59 stand rejected as being unpatentable over Wieder and Shisgal, taken further with Suzuki. The rejection of claims 36 and 55, from which these claims depend, has not been sustained. Further consideration of Suzuki, which was cited for disclosing a vehicle having distance sensors mounted in recesses in a bumper, does not alter this conclusion. The rejection of claims 40, 41, 46, 58 and 59 is not sustained.

We also will not sustain the rejection of claims 47 and 48, which depend from claim 36, for Suzuki and Schulte do not cause us to deviate from our decision not to sustain the rejection of claim 36.

SUMMARY

None of the rejections are sustained.

The decision of the examiner is reversed.

NEAL E. ABRAMS)
Administrative Patent Judge)
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